

Recovery Plan Action Status

Plan Name: Recovery Plan for *Caesalpinia kavaensis* and *Kokia drynarioides*

Plan Status: Final

Plan Date: 06-May-94

Lead Agency: USFWS

Lead Office: Pacific Islands Fish And Wildlife Office

(408)
(792-9400)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaensis), Koki'o (Kokia drynarioides)	1	1110	Tag and monitor all North Kona individuals	Ongoing Not Current	Prior to FY 1995		Department of Hawaiian Home Lands, Kona Dry Forest Working Group	Research: Population Surveys	Contract	While the plants are periodically monitored, a regular monitoring schedule needs to be implemented.
Uhiuhi (Caesalpinia kavaensis), Koki'o (Kokia drynarioides)	1	1111	Prioritize management sites	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Planning	Internal Administrative	This task must be reassessed as new land use is planned or occurs.
Uhiuhi (Caesalpinia kavaensis), Koki'o (Kokia drynarioides)	1	1112	Identify lands that can be protected	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Acquisition: General	Internal Technical Assistance	This task must be reassessed as lands change ownership or agency jurisdiction.
Uhiuhi (Caesalpinia kavaensis), Koki'o (Kokia drynarioides)	1	1113	Determine extent of habitat required for recovery	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Planning	Internal Technical Assistance	More research is needed on the basic biology of the species and habitat restoration capabilities before this can be determined.
Uhiuhi (Caesalpinia kavaensis), Koki'o (Kokia drynarioides)	1	1121	Change state land use class to Conservation, Protected subzone	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Land Use	Internal Technical Assistance	This task has been completed for 10 <i>Caesalpinia kavaensis</i> individuals in Mt. Kaala Natural Area Reserve on Oahu. Most other populations are in land zoned for agriculture.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	1	1122	Protect habitat leased by the State	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Acquisition: Withdrawal	Internal Administrative	The Puu Waawaa section of State land has been removed from lease status and is in the process of master planning that will include conservation and recreational use. The extent to which it will protect Caesalpinia kavaïensis is unclear at this time. Hualalai Ranch does not lease any State lands with Caesalpinia kavaïensis populations, and so has been removed from responsible parties.
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	1	1123	Protect lands owned and leased by Bishop Estate	Complete	Prior to FY 1995	FY 1995 - FY 1999	U.S. Fish and Wildlife Service, Ecological Services Division, PIA Sports Properties, Inc., Kamehameha Schools, Kona Dry Forest Working Group	Acquisition: Management Agreement	Internal Technical Assistance	Bishop Estate, now called Kamehameha Schools, is a member of the Kona Dry Forest Working Group, and as designated 75 acres of the Kaupulehu area, leased to PSPi (also a KDFWG member), as a dry forest preserve.
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	1	113	Create / expand germplasm reserves	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Propagation	Contract	Many different botanical gardens have seeds and growing plants of both species, but the ex situ collections are still not complete. In many cases, the genetic source of the plants in collection is unknown, making the collection less valuable for reintroduction efforts.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	1	1141	Improve access to sites and file maps with fire department	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Hawaii County Fire Department, Department of Hawaiian Home Lands, Kona Dry Forest Working Group	Management: Habitat Maintenance and Manipulation	Contract	This task has been completed for Kaupulehu, Puu Waawaa, and Kealakehe.
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	1	1142	Train liaisons for fire management	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Hawaii County Fire Department, Kona Dry Forest Working Group	Management: Habitat Maintenance and Manipulation	Contract	Liaisons are in place for Puu Waawaa and Kaupulehu.
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	1	1143	Assemble best info. on fire management in fountain grass areas	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Hawaii County Fire Department	Management: Habitat Maintenance and Manipulation	Contract	There is a Kona fire management group, headed by DLNR, which addresses this task.
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	1	1144	Implement updated fire control plan in North Kona	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Hawaii County Fire Department, Department of Hawaiian Home Lands, Kona Dry Forest Working Group	Management: Habitat Maintenance and Manipulation	Contract	This is a continual task, as long as fountain grass or other highly flammable invasive plant species are present in the North Kona area.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaiense), Koki'o (Kokia drynarioides)	1	1145	Schedule maintenance fire breaks	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Hawaii County Fire Department, Department of Hawaiian Home Lands, Kona Dry Forest Working Group	Management: Planning	Contract	This is an ongoing task that is carried out for Puu Waawaa, Kaupulehu, and Kealakehe.
Uhiuhi (Caesalpinia kavaiense), Koki'o (Kokia drynarioides)	1	115	Implement a fountain grass control plan for N. Kona	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Department of Hawaiian Home Lands, Kona Dry Forest Working Group	Management: Habitat Maintenance and Manipulation	Contract	This task is ongoing but not far in Kaupulehu, and has not started at other Kona sites. Eradication of fountain grass from all of North Kona is no longer considered an option, because it is so widespread.
Uhiuhi (Caesalpinia kavaiense), Koki'o (Kokia drynarioides)	1	116	Control ungulate damage in North Kona	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	A fence has been constructed around 75 acres in Kaupulehu. Ungulates are not a threat to the Kealakehe population. The Puu Waawaa, Puukala, and newly discovered Waikoloa populations have not been fenced.
Uhiuhi (Caesalpinia kavaiense), Koki'o (Kokia drynarioides)	1	117	Continue alien plant control in North Kona	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Department of Hawaiian Home Lands, Kona Dry Forest Working Group	Management: Habitat Maintenance and Manipulation	Contract	This task is ongoing at Kaupulehu, but has not been initiated at other populations.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	1	118	Control rodents, game birds and insects as necessary	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Predator and Competitor Control	Contract	Rodent control is ongoing at Kaupulehu, but has not been initiated at other populations. Game bird impacts are monitored at Kaupulehu, and do not appear high. An effective method of black twig borer control is not yet available that is approved for use in natural areas.
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	1	119	Manage other limiting factors in North Kona	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Department of Hawaiian Home Lands, Kona Dry Forest Working Group	Management: Other	Contract	Research is first required on what other limiting factors are before they can be managed. No additional threats are currently known.
Uhiuhi (Caesalpinia kavaïense)	1	121	Negotiate a long term agreement with State of Hawaii for Oahu habitat	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Army, Oahu Genetic Safety Net Program	Acquisition: Management Agreement	Internal Administrative	The majority of the Kaala population is within the State's Mt. Kaala Natural Area Reserve, which is managed for natural resources. The U.S. Army is working with the State to protect the West Makaleha population as part of their BO compliance for other species. The Oahu GSN coordinator is beginning work on protecting the remaining Oahu plants.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kawaiiense)	1	122	Create and/or expand germplasm reserves	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Botanical Gardens, Hawaii Department of Land and Natural Resources, Department of Hawaiian Home Lands, Kona Dry Forest Working Group, Oahu Genetic Safety Net Program	Management: Propagation	Contract	While there is some material in cultivation, the ex situ collection is not complete and much of the material is from unknown sources.
Uhiuhi (Caesalpinia kawaiiense)	1	123	Evaluate need for fire control on Oahu	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Army, Oahu Genetic Safety Net Program	Management: Habitat Maintenance and Manipulation	Contract	The Army has assessed the need for fire management in the Makaleha population, and DLNR manages fire in the Mt. Kaala Natural Area Reserve. Waianae Kai is particularly fire-prone, and urgently needs a fire management plan and fuels management.
Uhiuhi (Caesalpinia kawaiiense)	1	124	Control ungulates on Oahu	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Army, Oahu Genetic Safety Net Program	Management: Habitat Maintenance and Manipulation	Contract	The Army plans to fence West Makaleha in 2007, and assists DLNR with ungulate hunts in Mt. Kaala Natural Area Reserve. The other populations are not being managed for ungulates at this time, but the Oahu GSN coordinator is determining the need for small-scale fencing to prevent extirpation of these populations this fiscal year.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kawaiiense)	1	125	Control alien plants on Oahu	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Army, Oahu Genetic Safety Net Program	Management: Habitat Maintenance and Manipulation	Contract	The Army has conducted some weed control in the West Makaleha area, but not in the immediate vicinity of this species. The Oahu GSN coordinator will determine this year the need for weed control within the immediate vicinity of all the Oahu populations.
Uhiuhi (Caesalpinia kawaiiense)	1	126	Control rodents, game birds and insects, as necessary	Planned			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Army, Oahu Genetic Safety Net Program	Management: Predator and Competitor Control	Contract	The Oahu GSN coordinator will assess the need for rodent and game bird control this fiscal year. The Army is searching for someone to conduct research on black twig borer control; until then there is no approved effective chemical method for use in forested areas.
Uhiuhi (Caesalpinia kawaiiense)	1	127	Manage other limiting factors on Oahu	Planned			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Oahu Genetic Safety Net Program	Management: Predator and Competitor Control	Contract	The Oahu GSN coordinator will determine whether there are other factors requiring management this fiscal year.
Uhiuhi (Caesalpinia kawaiiense)	1	128	Tag and monitor all Oahu individuals	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Botanical Gardens, Hawaii Department of Land and Natural Resources, Oahu Genetic Safety Net Program	Research: Population Surveys	Contract	While this task has been ongoing, it has not been conducted on a regular basis. The Oahu GSN coordinator will begin more frequent monitoring this fiscal year.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaïense)	1	131	Protect Lanai habitat owned by Castle & Cooke	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Castle & Cooke, Inc.	Acquisition: Management Agreement	Contract	This task has been abandoned because the only known plant on Lanai died in 1995.
Uhiuhi (Caesalpinia kavaïense)	1	132	Create and/or expand germplasm reserves	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Propagation	Contract	While the last known plant has died, this species does have a long-lived seed bank, and additional surveys need to be conducted during the rainy season to search for any potential new seedlings.
Uhiuhi (Caesalpinia kavaïense)	1	133	Evaluate need for fire control on Lanai	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	This task has been abandoned because the only known plant on Lanai died in 1995.
Uhiuhi (Caesalpinia kavaïense)	1	134	Control ungulates on Lanai	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	This task has been abandoned because the only known plant on Lanai died in 1995.
Uhiuhi (Caesalpinia kavaïense)	1	135	Control alien plants on Lanai	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	This task has been abandoned because the only known plant on Lanai died in 1995.
Uhiuhi (Caesalpinia kavaïense)	1	136	Control rodents, game birds, and insects, as necessary	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Predator and Competitor Control	Contract	This task has been abandoned because the only known plant on Lanai died in 1995.
Uhiuhi (Caesalpinia kavaïense)	1	137	Manage other limiting factors on Lanai	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Predator and Competitor Control	Contract	This task has been abandoned because the only known plant on Lanai died in 1995.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaeense)	1	138	Tag and monitor all Lanai individuals	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Acquisition: General	Contract	While the last known plant has died, this species has a long-lived seed bank, and additional monitoring is needed during the rainy season for any potential new seedlings. This task will be more regularly implemented by the Maui GSN coordinator when hired in FY 2006.
Uhiuhi (Caesalpinia kavaeense)	1	141	Protect privately owned habitat on Kauai	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Acquisition: Management Agreement	Internal Administrative	This task has been abandoned because the last plants died by 1994.
Uhiuhi (Caesalpinia kavaeense)	1	142	Create and/or expand germplasm reserves	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Propagation	Contract	This task has been abandoned because the last plants died by 1994. If the landowner allows any biologists on the property in the future, the site of the last known plants should be searched for any potential new seedlings.
Uhiuhi (Caesalpinia kavaeense)	1	143	Evaluate need for fire control on Kauai	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	This task has been abandoned because the last plants died by 1994.
Uhiuhi (Caesalpinia kavaeense)	1	144	Control ungulates on Kauai	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	Even though the last plants died by 1994, the fence is maintained in case seedlings germinate from the seed bank.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaeense)	1	145	Control alien plants on Kauai	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	This task has been abandoned because the last plants died by 1994.
Uhiuhi (Caesalpinia kavaeense)	1	146	Control rodents, game birds and insects, as necessary	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Predator and Competitor Control	Contract	This task has been abandoned because the last plants died by 1994.
Uhiuhi (Caesalpinia kavaeense)	1	147	Manage other limiting factors on Kauai	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Predator and Competitor Control	Contract	This task has been abandoned because the last plants died by 1994.
Uhiuhi (Caesalpinia kavaeense)	1	148	Tag and monitor all Kauai individuals	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Botanical Gardens, Hawaii Department of Land and Natural Resources	Research: Population Surveys	Contract	While the last known plants have died, all recently known population sites should be surveyed during the rainy season for any potential new seedlings.
Uhiuhi (Caesalpinia kavaeense)	1	151	Search for unknown individuals on Maui	Ongoing Not Current	FY 2006		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Research: Population Surveys	Contract	While not seen on Maui since the early 1900's, this species has a long-lived seed bank, and additional surveys are needed during the rainy season for any potential new seedlings. This task will be regularly implemented by the Maui GSN coordinator hired in January 2006. As a first step the Maui GSN coordinator searched the local herbarium for historical location information.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaiense)	1	152	Protect habitat on Maui	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Acquisition: General	Contract	This task has not been started because no plants have been found on Maui.
Uhiuhi (Caesalpinia kavaiense)	1	153	Manage habitat on Maui	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Habitat Maintenance and Manipulation	Contract	This task has not been started because no plants have been found on Maui.
Uhiuhi (Caesalpinia kavaiense), Koki'o (Kokia drynarioides)	2	21	Research pollination, germination and life cycle	Not Started			Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Population Surveys	Contract	
Uhiuhi (Caesalpinia kavaiense), Koki'o (Kokia drynarioides)	2	210	Develop new techniques based on outcome of research	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: General	Contract	This task has not been started because no research has been done yet.
Uhiuhi (Caesalpinia kavaiense), Koki'o (Kokia drynarioides)	2	22	Determine extent of inbreeding suppression	Not Started			Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Demographic Studies	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaiense), Koki'o (Kokia drynarioides)	2	23	Evaluate role of abiotic limiting factors and alien plant competition	Ongoing Not Current	FY 1995 - FY 1999		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Habitat Status	Contract	Some of this research has been conducted on more common species found within the Kaupulehu preserve by the US Forest Service as a member of the KDFWG, and shows that fountain grass restricts seedling establishment and greatly reduces the growth of species by restricting water available to reach the deep roots of native species.
Uhiuhi (Caesalpinia kavaiense), Koki'o (Kokia drynarioides)	2	24	Determine properties of seed bank	Partially Complete	Prior to FY 1995		Botanical Gardens, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Propagation	Contract	While no research has been conducted on the wild seed bank, seed storage tests show that this species can be stored under orthodox methods of drying and freezing. Seedlings have appeared in bulldozed areas adjacent to old trees, but it is unclear how old those seeds may have been before germinating.
Uhiuhi (Caesalpinia kavaiense), Koki'o (Kokia drynarioides)	2	25	Research utilization of seeds, seedlings, fruits and flowers	Not Started			Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Predation	Contract	
Uhiuhi (Caesalpinia kavaiense), Koki'o (Kokia drynarioides)	2	26	Research ecology of root symbiots	Not Started			Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Other Information	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	2	271	Appraise feasibility of biological control	Ongoing Not Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service, Kona Dry Forest Working Group	Research: Predation	Contract	This task is being pursued by the US Forest Service as a member of the KDFWG.
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	2	272	Evaluate use of herbicides for alien plant control	Complete	Prior to FY 1995	FY 2000 - FY 2004	Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service	Research: Management Techniques	Contract	The US Forest Service, as a member of the KDFWG, has conducted several experiments on the use of herbicides vs. other control methods for fountain grass control. To date, the most efficient method with the least impact to the native forest is weedwacking followed by roundup spraying.
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	2	273	Evaluate use of cattle grazing for fountain grass control	Not Started			Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, National Park Service, Kona Dry Forest Working Group	Research: Management Techniques	Contract	This method has not been tested because the current dry forest restoration sites are in areas too rough for cattle grazing. The KDFWG hopes to expand to additional restoration sites in Puu Waawaa where this method can be tested.
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	2	28	Research control methods for insects	Ongoing Not Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Army	Research: Predation	Contract	The Army plans to contract someone to conduct research on black twig borer control, but is having difficulty finding a willing researcher.
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	2	29	Evaluate role of other limiting factors	Not Started			Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Management Techniques	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	2	31	Determine populations to be increased	Complete	Prior to FY 1995	FY 2006	U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Reintroduction	Internal Technical Assistance	All populations need to be increased due to low numbers of mature, reproducing individuals and lack of population structure.
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	2	32	Determine techniques for increasing numbers	Complete	Prior to FY 1995	Prior to FY 1995	U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Research: Propagation	Contract	The work by DLNR and KDFWG in North Kona shows that outplanting seedlings is successful.
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	2	331	Augment North Kona populations: Select genetic stock for augmentation	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Kona Dry Forest Working Group, Oahu Genetic Safety Net Program, Maui Nui Genetic Safety Net Program	Management: Propagation	Contract	This task has been initiated for the Kaupulehu population.
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	2	332	Augment North Kona populations: Identify specific areas to augment	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Kona Dry Forest Working Group, Oahu Genetic Safety Net Program, Maui Nui Genetic Safety Net Program	Management: Propagation	Contract	This task has been initiated for the Kaupulehu population.
Uhiuhi (Caesalpinia kavaïense)	2	333	Augment North Kona populations: Propagate genetically suitable C. kavaïensis plants	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Botanical Gardens, Hawaii Department of Land and Natural Resources, Kona Dry Forest Working Group, Oahu Genetic Safety Net Program, Maui Nui Genetic Safety Net Program	Management: Propagation	Contract	This task has been initiated for the Kaupulehu population.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	2	335	Augment North Kona populations: Transplant nursery grown plants	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Reintroduction	Contract	This task has been initiated for the Kaupulehu population.
Uhiuhi (Caesalpinia kavaïense)	2	341	Augment Oahu populations: Select genetic stock for augmentation	Ongoing Not Current	FY 2006		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Oahu Genetic Safety Net Program	Management: Propagation	Contract	This task was initiated by the Oahu Genetic Safety Net Program in FY 2006, cooperating with Leeward Community College nursery and Oahu Natural Area Reserve biologist.
Uhiuhi (Caesalpinia kavaïense)	2	342	Augment Oahu populations: Identify specific areas to augment	Ongoing Not Current	FY 2006		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Oahu Genetic Safety Net Program	Management: Reintroduction	Contract	This task was initiated by the Oahu Genetic Safety Net Program in FY 2006 with assistance from DLNR staff to resurvey remaining wild individuals.
Uhiuhi (Caesalpinia kavaïense)	2	343	Augment Oahu populations: Propagate genetically suitable C. kavaïensis plants	Ongoing Not Current	FY 2006		U.S. Fish and Wildlife Service, Ecological Services Division, Botanical Gardens, Hawaii Department of Land and Natural Resources, Oahu Genetic Safety Net Program	Management: Propagation	Contract	This task was initiated by the Oahu Genetic Safety Net Program with the assistance of Lyon Arboretum and Pahole Rare Plant Facility in FY 2006. Plants did not do well in cultivation over FY 2007. Additional material was collected in FY 2007, but is all from one population and only 3 individuals are in cultivation as of June 2007.
Uhiuhi (Caesalpinia kavaïense)	2	344	Augment Oahu populations: Transplant nursery grown plants	Ongoing Not Current	FY 2008		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Oahu Genetic Safety Net Program	Management: Reintroduction	Contract	A small number of plants were reintroduced into Pahole NAR, more are needed.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaïense)	2	351	Augment Lanai populations: Select genetic stock for augmentation	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Propagation	Contract	
Uhiuhi (Caesalpinia kavaïense)	2	352	Augment Lanai populations: Identify specific areas to augment	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Reintroduction	Contract	
Uhiuhi (Caesalpinia kavaïense)	2	353	Augment Lanai populations: Propagate genetically suitable C. kavaïensis plants	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Botanical Gardens, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Propagation	Contract	
Uhiuhi (Caesalpinia kavaïense)	2	354	Augment Lanai populations: Transplant nursery grown plants	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Reintroduction	Contract	
Uhiuhi (Caesalpinia kavaïense)	2	361	Augment Kauai populations: Select genetic stock for augmentation	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Propagation	Contract	
Uhiuhi (Caesalpinia kavaïense)	2	362	Augment Kauai populations: Identify specific areas to augment	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Reintroduction	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaense)	2	363	Augment Kauai populations: Propagate genetically suitable Caesalpinia kavaense plants	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Botanical Gardens, Hawaii Department of Land and Natural Resources	Management: Propagation	Contract	
Uhiuhi (Caesalpinia kavaense)	2	364	Augment Kauai populations: Transplant nursery grown plants	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Reintroduction	Contract	
Uhiuhi (Caesalpinia kavaense)	2	411	Select new sites on Lanai	Ongoing Not Current	FY 2007		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Acquisition: Management Agreement	Contract	Assessment of existing exclosures by Maui Nui PEP coordinator indicates several are suitable for reintroduction of Caesalpinia kavaensis.
Uhiuhi (Caesalpinia kavaense)	2	412	Secure new sites through an agreement with Castle & Cook	Ongoing Not Current	FY 2007		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Castle & Cooke, Inc., Maui Nui Genetic Safety Net Program	Acquisition: Management Agreement	Contract	Maui Nui PEP coordinator initiated discussions with Lanai Co. and Maui DOFAW to reinstate management and protection of existing exclosures that were somewhat abandoned in recent years.
Uhiuhi (Caesalpinia kavaense)	2	413	Select genetic stock for reintroduction	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Propagation	Contract	
Uhiuhi (Caesalpinia kavaense)	2	414	Control ungulates at new sites	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Habitat Maintenance and Manipulation	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaiense)	2	415	Evaluate need for fire control at new sites	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Habitat Maintenance and Manipulation	Contract	
Uhiuhi (Caesalpinia kavaiense)	2	416	Control alien plants as needed	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Habitat Maintenance and Manipulation	Contract	
Uhiuhi (Caesalpinia kavaiense)	2	417	Control seed predators as needed	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Predator and Competitor Control	Contract	
Uhiuhi (Caesalpinia kavaiense)	2	418	Establish seedlings at new sites	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Reintroduction	Contract	
Uhiuhi (Caesalpinia kavaiense)	2	421	Select new sites on Kauai	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaïense)	2	422	Secure new sites through an agreement with landowners	Ongoing Not Current	FY 2007		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Acquisition: General	Contract	Kauai Watershed Alliance, established to manage much of the remaining native watershed of Kauai, includes several areas that are suitable for additional reintroduction sites for Caesalpinia kavaïensis. None of the sites are scheduled for threat management in the coming year, but may be in the following year or two.
Uhiuhi (Caesalpinia kavaïense)	2	423	Select genetic stock for reintroduction	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Propagation	Contract	
Uhiuhi (Caesalpinia kavaïense)	2	424	Control ungulates at new sites	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	
Uhiuhi (Caesalpinia kavaïense)	2	425	Evaluate need for fire control at new sites	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	
Uhiuhi (Caesalpinia kavaïense)	2	426	Control alien plants as needed	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	
Uhiuhi (Caesalpinia kavaïense)	2	427	Control seed predators as needed	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Predator and Competitor Control	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaiense)	2	428	Establish seedlings at new sites	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Reintroduction	Contract	
Uhiuhi (Caesalpinia kavaiense)	2	431	Establish new populations on Maui: Select new sites on Maui	Ongoing Not Current	FY 2007		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Reintroduction	Contract	Sites have been selected at Kanaio and Auwahi, and small reintroduction efforts have occurred at Kanaio, but still need additional material.
Uhiuhi (Caesalpinia kavaiense)	2	432	Establish new populations on Maui: Secure new sites through an agreement with landowners	Ongoing Not Current	FY 2007		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Acquisition: Management Agreement	Contract	Managers of Kanaio Natural Area Reserve have agreed to management of reintroduction populations within these protected areas. Discussions are still in progress for Leeward Haleakala Watershed Partnership (for the Auwahi site).
Uhiuhi (Caesalpinia kavaiense)	2	433	Establish new populations on Maui: Select genetic stock for reintroduction	Ongoing Not Current	FY 2007		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Propagation	Contract	Plants have already been reintroduced into Kanaio from Big Island stock. The reintroduction needs to be assessed to determine if Lanai stock should be added to the population for genetic reasons.
Uhiuhi (Caesalpinia kavaiense)	2	434	Establish new populations on Maui: Control ungulates at new sites	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Habitat Maintenance and Manipulation	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaïense)	2	435	Establish new populations on Maui: Evaluate need for fire control at new sites	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Habitat Maintenance and Manipulation	Contract	
Uhiuhi (Caesalpinia kavaïense)	2	436	Establish new populations on Maui: Control alien plants as needed	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Habitat Maintenance and Manipulation	Contract	
Uhiuhi (Caesalpinia kavaïense)	2	437	Establish new populations on Maui: Control seed predators as needed	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Predator and Competitor Control	Contract	
Uhiuhi (Caesalpinia kavaïense)	2	438	Establish new populations on Maui: Establish seedlings at new sites	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Maui Nui Genetic Safety Net Program	Management: Reintroduction	Contract	
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	3	51	Determine number of populations needed for 200 year survival	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Other: Regulations	Contract	
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	3	52	Determine # of individuals needed for 200 year survival	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Population Surveys	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	3	53	Revise recovery objectives	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Other: Regulations	Contract	
Uhiuhi (Caesalpinia kavaïense), Koki'o (Kokia drynarioides)	3	54	Determine effects of climate change	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Other Information	Contract	